

(12)特許協力条約に基づいて公開された国際出願

15 APR 2005

(19) 世界知的所有権機関
国際事務局(43) 国際公開日
2004 年 4 月 29 日 (29.04.2004)

PCT

(10) 国際公開番号
WO 2004/035851 A1

(51) 国際特許分類: C22C 38/00, 38/06, B21J 1/04

(21) 国際出願番号: PCT/JP2003/013309

(22) 国際出願日: 2003 年 10 月 17 日 (17.10.2003)

(25) 国際出願の言語: 日本語

(26) 国際公開の言語: 日本語

(30) 優先権データ:
特願 2002-303660
2002 年 10 月 17 日 (17.10.2002) JP

(71) 出願人(米国を除く全ての指定国について): 独立行政法人物質・材料研究機構 (NATIONAL INSTITUTE

FOR MATERIALS SCIENCE) [JP/JP]; 〒305-0047 茨城県つくば市千現 1 丁目 2 番 1 号 Ibaraki (JP).

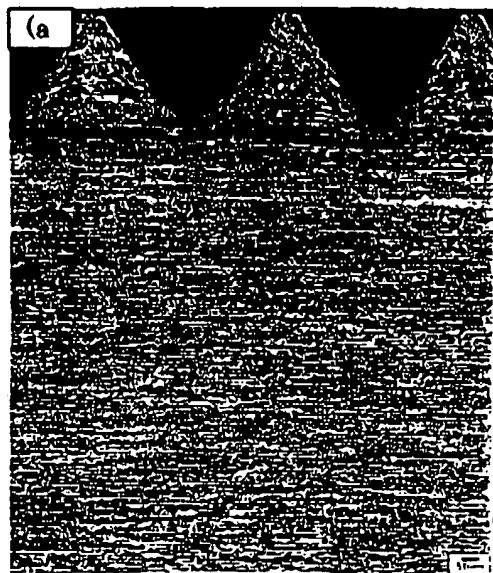
(72) 発明者; および

(75) 発明者/出願人(米国についてののみ): 鳥塚 史郎 (TOR-IZUKA, Shiro) [JP/JP]; 〒305-0047 茨城県つくば市千現 1 丁目 2 番 1 号 独立行政法人物質・材料研究機構内 Ibaraki (JP). 長井 勇 (NAGAI, Kotobu) [JP/JP]; 〒305-0047 茨城県つくば市千現 1 丁目 2 番 1 号 独立行政法人物質・材料研究機構内 Ibaraki (JP). 村松 榮次郎 (MURAMATSU, Eijiro) [JP/JP]; 〒305-0047 茨城県つくば市千現 1 丁目 2 番 1 号 独立行政法人物質・材料研究機構内 Ibaraki (JP). 鈴木 由幸 (SUZUKI, Yoshiyuki) [JP/JP]; 〒406-0842 山梨県 東八

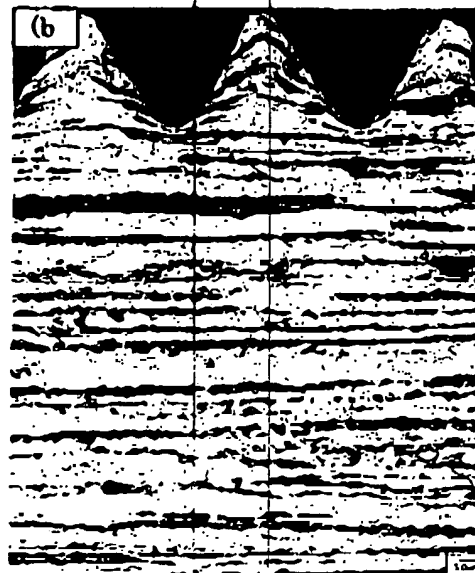
[続表有]

(54) Title: FORMED PRODUCT AND METHOD FOR PRODUCTION THEREOF

(54) 発明の名称: 成形品とその製造方法



1...CENTER



(57) Abstract: A formed product, characterized in that it is produced by using, as a material, a steel having a superfine structure comprising ferrite grains having an average grain diameter of $3 \mu\text{m}$ or less and by a method comprising only a forming step and including none of refining steps; and a method for producing the above formed product with ease. The formed product contains no alloying element and has been subjected to no refining step, and has been imparted with high strength and high toughness by the above superfine structure.

(57) 要約: 平均粒径が $3 \mu\text{m}$ 以下のフェライト粒からなる超微細組織を有する鋼が素材とされ、成形のみで製造され、調質処理が一切施されていない高強度品であり、合金元素の添加あるいは調質処理によらず超微細組織によって高強度および高靱性が確保されて

ATTACHMENT G

[続表有]

BEST AVAILABLE COPY

WO 2004/035851 A1

WO 2004/035851 A1



代郡 境川村石橋 1253-1 株式会社降矢技研内
Yamanashi (JP).

(84) 指定国(広域): ヨーロッパ特許 (AT, BE, BG, CH, CY,
CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC,
NL, PT, RO, SE, SI, SK, TR).

(74) 代理人: 西澤 利夫 (NISHIZAWA, Toshio): 〒107-0062
東京都港区南青山6丁目11番1号 スリーエフ南青山
ビルディング7F Tokyo (JP).

添付公開書類:
— 国際調査報告書

(81) 指定国(国内): CN, KR, US.

2文字コード及び他の略語については、定期発行される
各PCTガゼットの巻頭に掲載されている「コードと略語
のガイダンスノート」を参照。

BEST AVAILABLE COPY

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/13309

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ C22C38/00, C22C38/06, B21J1/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ C22C38/00, C22C38/06, B21J1/04

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho 1922-1996 Toroku Jitsuyo Shinan Koho 1994-2003
 Kokai Jitsuyo Shinan Koho 1971-2003 Jitsuyo Shinan Toroku Koho 1996-2003

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 10-53813 A (O & K Co., Ltd.), 24 February, 1998 (24.02.98), Full text (Family: none)	1-17
Y	JP 2001-234239 A (Independent Administrative Institution National Institute for Materials Science), 28 August, 2001 (28.08.01), Full text (Family: none)	1-17

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:
 "A" document defining the general state of the art which is not
 considered to be of particular relevance
 "E" earlier document but published on or after the international filing
 date
 "L" document which may throw doubts on priority claim(s) or which is
 cited to establish the publication date of another citation or other
 special reason (as specified)
 "O" documents referring to an oral disclosure, use, exhibition or other
 means
 "P" document published prior to the international filing date but later
 than the priority date claimed

"T" later document published after the international filing date or
 priority date and not in conflict with the application but cited to
 understand the principle or theory underlying the invention
 "X" document of particular relevance; the claimed invention cannot be
 considered novel or cannot be considered to involve an inventive
 step when the document is taken alone
 "Y" document of particular relevance; the claimed invention cannot be
 considered to involve an inventive step when the document is
 combined with one or more other such documents, such
 combination being obvious to a person skilled in the art
 "&" document member of the same patent family

Date of the actual completion of the international search
25 December, 2003 (25.12.03)Date of mailing of the international search report
20 January, 2004 (20.01.04)Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

ATTACHMENT F

Facsimile No.

Telephone No.